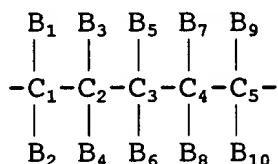


aryl, substituted and unsubstituted acyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residue, halogen,  $OX_1$  and  $OX_2$ ,

wherein  $X_1$  and  $X_2$  may be identical or different and are selected from the group which consists of hydrogen, substituted and unsubstituted  $C_{1-9}$  alkyl, substituted and unsubstituted hydroxy- $C_{1-9}$ -alkyl, substituted and unsubstituted  $C_{1-9}$  alkenyl, substituted and unsubstituted  $C_{1-9}$  alkynyl, substituted and unsubstituted aryl, substituted and unsubstituted acyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residue,

in which A is of the following formula (II):



wherein one or more of the carbon atoms selected from the group  $C_3, C_4, C_5$  together with their substituents may also be absent, and at least one substituent present in the range from  $B_1$  to  $B_{10}$  is a  $C_{3-8}$ -cycloalkyl- $(C_{0-9})$ -alkyl group, wherein both the  $C_{3-8}$  cycloalkyl group and the  $C_{0-9}$  alkyl group may comprise one or more double bonds and one or two carbon atoms of the cycloalkyl group

may be replaced by nitrogen, oxygen or sulfur atoms, and wherein both the cycloalkyl group and the alkyl group may be substituted with hydroxy, halogen, amino, oxo groups with branched or unbranched C<sub>1-9</sub> alkyl groups and C<sub>2-9</sub> alkenyl groups, wherein the C<sub>1-9</sub> alkyl groups and C<sub>2-9</sub> alkenyl groups may be substituted with hydrogen, hydroxy, amino, halogen and oxo groups, and the remaining substituents B<sub>1</sub> to B<sub>10</sub> present are selected from the group which consists of hydrogen, hydroxy, halogen, amino groups, C<sub>1-26</sub> alkyl residues, C<sub>1-26</sub> alkoxy residues, C<sub>1-26</sub>-alkoxy-C<sub>1-26</sub>-alkyl residues or both substituents of a C atom together form an oxo group, wherein each C<sub>1-26</sub> alkyl residue and each C<sub>1-26</sub> alkoxy residue may be branched or unbranched and be saturated or unsaturated with one or more double bonds and may be substituted with hydroxy, amino, halogen and oxo groups,

in which R<sub>3</sub> and R<sub>4</sub> are identical or different and are selected from the group which consists of substituted and unsubstituted C<sub>1-26</sub> alkyl, substituted and unsubstituted hydroxy-C<sub>1-26</sub>-alkyl, substituted and unsubstituted aryl, substituted and unsubstituted acyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted C<sub>1-26</sub> alkenyl, substituted and unsubstituted C<sub>1-26</sub> alkynyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residue, halogen, OX<sub>3</sub> and OX<sub>4</sub>,

wherein X<sub>3</sub> and X<sub>4</sub> are identical or different and consist of hydrogen, substituted and unsubstituted C<sub>1-26</sub> alkyl, substituted and unsubstituted hydroxy-C<sub>1-26</sub>-alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted C<sub>1-26</sub> alkenyl, substituted and unsubstituted C<sub>1-26</sub> alkynyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residue, a silyl, a cation of an organic and inorganic base, in particular a metal of main groups I, II or III of the periodic system, ammonium, substituted ammonium and ammonium compounds derived from ethylenediamine or amino acids, and the pharmaceutically acceptable salts, esters thereof and salts of the esters.

15. Compound according to claim 14, characterised in that the organophosphorus compounds are of the formula (II)



wherein

wherein X<sub>1</sub> is hydrogen and R<sub>2</sub> an acyl residue, particularly preferably a formyl residue or acetyl residue, and R<sub>3</sub>, R<sub>4</sub> and A have the same meaning as in formula (I).

16. Compound according to claim 14, characterised in that  $X_3$  and  $X_4$  are selected from the group which consists of  $OX_3$  and  $OX_4$ , and  $X_3$  and  $X_4$  are selected from the group comprising hydrogen, a metal of main groups I, II or III of the periodic system, ammonium, substituted ammonium, or ammonium compounds derived from ethylenediamine or amino acids.

17. Compound according to claim 14, characterised in that the carbon chain of A with the formula (II) consists of three carbon atoms  $C_1$ ,  $C_2$ ,  $C_3$ .

18. Compound according to claim 14, characterised in that  $B_1$  and  $B_2$  together or  $B_7$  and  $B_8$  together form an oxo group and the carbon chain in A consists of four carbon atoms  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$ .

19. Compound according to claim 14, characterised in that the carbon chain of A with the formula (II) consists of four carbon atoms  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$  and  $B_7$  or  $B_8$  or both are a hydroxy group.

20. Compound according to claim 14, characterised in that the carbon chain preferably consists of 5 carbon atoms  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$ ,  $C_5$ , wherein  $B_1$  and  $B_2$  together form an oxo group and  $B_9$  or  $B_{10}$  are a hydroxyl group or  $B_9$  and  $B_{10}$  together also form an oxo group.

21. Compound according to claim 19, characterised in that  $R_3$  or  $R_4$  or both are methylene groups.

22. Use of organophosphorus compounds according to claim 14 for the production of a pharmaceutical preparation for the treatment of infectious processes in humans and animals which are caused by viruses, bacteria, fungi or parasites and as a fungicide, bactericide or herbicide in plants.

23. Use according to claim 22 for the production of a pharmaceutical preparation for the treatment of infections caused by bacteria, viruses, fungi or uni- or multicellular parasites.

24. Use according to claim 23 for the production of a pharmaceutical preparation for the treatment of infections which are caused by bacteria which are selected from the group which consists of bacteria of the family Propionibacteriaceae, in particular of the genus Propionibacterium, in particular the species Propionibacterium acnes, bacteria of the family Actinomycetaceae, in particular of the genus Actinomyces, bacteria of the genus Corynebacterium, in particular the species Corynebacterium diphtheriae and Corynebacterium pseudotuberculosis, bacteria of the family Mycobacteriaceae, of the genus Mycobacterium, in particular the species Mycobacterium leprae, Mycobacterium tuberculosis, Mycobacterium bovis and Mycobacterium avium, bacteria of the family Chlamydiaceae, in particular the species Chlamydia trachomatis and Chlamydia psittaci, bacteria of the genus Listeria, in particular the species Listeria monocytogenes, bacteria of the species Erysipelthrix rhusiopathiae, bacteria of the genus Clostridium,

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bacteria of the genus *Yersinia*, the species *Yersinia pestis*, *Yersinia pseudotuberculosis*, *Yersinia enterocolitica* and *Yersinia ruckeri*, bacteria of the family *Mycoplasmataceae*, of the genera *Mycoplasma* and *Ureaplasma*, in particular the species *Mycoplasma pneumoniae*, bacteria of the genus *Brucella*, bacteria of the genus *Bordetella*, bacteria of the family *Neisseriaceae*, in particular of the genera *Neisseria* and *Moraxella*, in particular the species *Neisseria meningitidis*, *Neisseria gonorrhoeae* and *Moraxella bovis*, bacteria of the family *Vibrionaceae*, in particular of the genera *Vibrio*, *Aeromonas*, *Plesiomonas* and *Photobacterium*, in particular the species *Vibrio cholerae*, *Vibrio anguillarum* and *Aeromonas salmonicida*, bacteria of the genus *Campylobacter*, in particular the species *Campylobacter jejuni*, *Campylobacter coli* and *Campylobacter fetus*, bacteria of the genus *Helicobacter*, in particular the species *Helicobacter pylori*, bacteria of the families *Spirochaetaceae* and *Leptospiraceae*, in particular of the genera *Treponema*, *Borrelia* and *Leptospira*, in particular *Borrelia burgdorferi*, bacteria of the genus *Actinobacillus*, bacteria of the family *Legionellaceae*, of the genus *Legionella*, bacteria of the family *Rickettsiaceae* and family *Bartonellaceae*, bacteria of the genera *Nocardia* and *Rhodococcus*, bacteria of the genus *Dermatophilus*, bacteria of the family *Pseudomonadaceae*, in particular of the genera *Pseudomonas* and *Xanthomonas*, bacteria of the family *Enterobacteriaceae*, in particular of the genera *Escherichia*, *Klebsiella*, *Proteus*, *Providencia*, *Salmonella*, *Serratia* and *Shigella*, bacteria of the family *Pasteurellaceae*, in particular of the genus *Haemophilus*, bacteria of the family

Micrococcaceae, in particular of the genera Micrococcus and Staphylococcus, bacteria of the family Streptococcaceae, in particular of the genera Streptococcus and Enterococcus and bacteria of the family Bacillaceae, in particular of the genera Bacillus and Clostridium, and in the eradication of Helicobacter in ulcers of the gastrointestinal tract.

25. Use according to claim 23 for the production of a pharmaceutical preparation for the treatment of infections which are caused by viruses which are selected from the group which consists of viruses of the genus Parvoviridae, in particular parvoviruses, dependoviruses, densovirus, viruses of the genus Adenoviridae, in particular adenoviruses, mastadenoviruses, aviadenoviruses, viruses of the genus Papovaviridae, in particular papovaviruses, in particular papillomaviruses ("wart" viruses), polyomaviruses, in particular JC virus, BK virus and miopapovaviruses, viruses of the genus Herpesviridae in particular herpes simplex viruses, varicella-zoster viruses, human cytomegalovirus, Epstein-Barr viruses, human herpesvirus 6, human herpesvirus 7, human herpesvirus 8, viruses of the genus Poxviridae, in particular poxviruses, orthopoxviruses, parapoxviruses, molluscum contagiosum virus, aviviruses, capriviruses, leporipoxviruses, primarily hepatotropic viruses, in particular hepatitsviruses, such as hepatitis A viruses, hepatitis B viruses, hepatitis C viruses, hepatitis D viruses, hepatitis E viruses, hepatitis F viruses, hepatitis G viruses, hepadnaviruses, in particular all hepatitisviruses, such as

